



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named
Inventor : James K. Klang

Appln. No.: 10/748,792

Filed : December 30, 2003

For : APPARATUS AND METHOD FOR
PREDICTING THE REMAINING
DISCHARGE TIME OF A BATTERY

Docket No.: C382.12-0143

Group Art Unit:

Examiner:

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I HEREBY CERTIFY THAT THIS PAPER IS BEING
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COMMISSIONER FOR PATENTS, P.O. BOX 1450,
ALEXANDRIA, VA 22313-1450, THIS

29th DAY OF MARCH, 20 04.

A. Leggo
PATENT ATTORNEY

Sir:

The patents or publications listed on the enclosed PTO Form-1449 are submitted pursuant to 37 C.F.R. § 1.97. Copies of the patents or publications cited are enclosed, except as waived by the Official Gazette notice of August 5, 2003 regarding copies of US Patents and Publications.

TIME OF FILING

The information disclosure statement is being filed:

1. X with the application or within three months of the filing date of the application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever event occurs last. In accordance with 37 C.F.R. § 1.97(b), no statement or fee is required.

METHOD OF PAYMENT

X No fee is required.

 Attached is a check in the amount of \$.


The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

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FORM PTO-1449	Atty. Docket No.: C382.12-0143	Serial No.: 10/748,792
 <p>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</p>	Applicant:	
	Jim K. Klang	
	Filing Date	Group Art:
	December 30, 2003	

U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
AA	2,514,745	7/11/50	Dalzell	171	95	
AB	3,593,099	7/13/71	Scholl	320	13	
AC	3,607,673	9/21/71	Seyl	204	1	
AD	3,676,770	7/11/72	Sharaf et al.	324	29.5	
AE	3,729,989	5/1/73	Little	73	133	
AF	3,753,094	8/14/73	Furuishi et al.	324	29.5	
AG	3,808,522	4/30/74	Sharaf	324	29.5	
AH	3,811,089	5/14/74	Strezelewicz	324	170	
AI	3,873,911	3/25/75	Champlin	324	29.5	
AJ	3,886,443	5/27/75	Miyakawa et al.	324	29.5	
AK	3,889,248	6/10/75	Ritter	340	249	
AL	3,906,329	9/16/75	Bader	320	44	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
AM	59-17892 ✓	1/30/84	Japan			Abstract Only
AN	59-17893 ✓	1/30/84	Japan			Abstract Only
AO	59-17894 ✓	1/30/84	Japan			Abstract Only

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AP ✓	"Electrochemical Impedance Spectroscopy in Battery Development and Testing", <u>Batteries International</u> , April 1997, pgs. 59 and 62-63.
AQ ✓	"Battery Impedance", by E. Willihnganz et al., <u>Electrical Engineering</u> , September 1959, pgs. 922-925.
AR ✓	"Determining The End of Battery Life", by S. DeBardelaben, <u>IEEE</u> , 1986, pgs. 365-368.
AS ✓	"A Look at the Impedance of a Cell", by S. DeBardelaben, <u>IEEE</u> , 1988, pgs. 394-397.

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Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
AT	3,909,708	9/30/75	Champlin	324	29.5	
AU	3,936,744	2/3/76	Perlmutter	324	158	
AV	3,946,299	3/23/76	Christianson et al.	320	43	
AW	3,947,757	3/30/76	Grube et al.	324	28	
AX	3,969,667	7/13/76	McWilliams	324	29.5	
AY	3,979,664	9/7/76	Harris	324	17	
AZ	3,984,762	10/5/76	Dowgiallo, Jr.	324	29.5	
BA	3,984,768	10/5/76	Staples	324	62	
BB	4,008,619	2/22/77	Alcaide et al.	73	398	
BC	4,053,824	10/11/77	Dupuis et al.	324	29.5	
BD	4,070,624	1/24/78	Taylor	327	158	
BE	4,086,531	4/25/78	Bernier	324	158	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
BF	60225078 ✓	11/9/85	Japan			Abstract Only
BG	04372536 ✓	12/25/92	Japan			Abstract Only
BH	04131779 ✓	5/6/92	Japan			Abstract Only

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

BI ✓	"The Impedance of Electrical Storage Cells", by N.A. Hampson et al., <u>Journal of Applied Electrochemistry</u> , 1980, pgs. 3-11.
BJ ✓	"A Package for Impedance/Admittance Data Analysis", by B. Boukamp, <u>Solid State Ionics</u> , 1986, pgs. 136-140.
BK ✓	"Precision of Impedance Spectroscopy Estimates of Bulk, Reaction Rate, and Diffusion Parameters", by J. Macdonald et al., <u>J. Electroanal. Chem.</u> , 1991, pgs. 1-11.

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Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
BL	4,112,351	9/5/78	Back et al.	324	16	
BM	4,114,083	9/12/78	Benham et al.	320	39	
BN	4,126,874	11/21/78	Suzuki et al.	354	60	
BO	4,178,546	12/11/79	Hulls et al.	324	158	
BP	4,193,025	3/11/80	Frailing et al.	324	427	
BQ	4,207,611	6/10/80	Gordon	364	580	
BR	4,315,204	2/9/82	Sievers et al.	322	28	
BS	4,316,185	2/16/82	Watrous et al.	340	636	
BT	4,322,685	3/30/82	Frailing et al.	324	429	
BU	4,363,407	12/14/82	Barkler et al.	209	3.3	
BV	4,369,407	1/18/83	Korbell	324	416	
BW	4,412,169	10/25/83	Dell'Orto	320	64	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
BX	03282276 ✓	12/12/91	Japan			Abstract Only
BY	03274479 ✓	12/5/91	Japan			Abstract Only
BZ	5216550 ✓	8/27/93	Japan			Abstract Only
CA	59017894 ✓	1/30/84	Japan			Abstract Only

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

CB	"Internal Resistance: Harbinger of Capacity Loss in Starved Electrolyte Sealed Lead Acid Batteries, by Vaccaro, F.J. et al., <u>AT&T Bell Laboratories</u> , 1987 IEEE, Ch. 2477, pp. 128,131.
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Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
CC	4,390,828	6/28/83	Converse et al.	320	32	
CD	4,392,101	7/5/83	Saar et al.	320	20	
CE	4,396,880	8/2/83	Windebank	320	21	
CF	4,408,157	10/4/83	Beaubien	324	62	
CG	4,423,378	12/27/83	Marino et al.	324	427	
CH	4,423,379	12/27/83	Jacobs et al.	324	429	
CI	4,424,491	1/3/84	Bobbett et al.	324	433	
CJ	4,459,548	7/10/84	Lentz et al.	324	158	
CK	4,514,694	4/30/85	Finger	324	429	
CL	4,520,353	5/28/85	McAuliffe	340	636	
CM	4,667,279	5/19/87	Maier	363	46	
CN	4,678,998	7/7/87	Muramatsu	324	427	
CO	4,679,000	7/7/87	Clark	324	428	
CP	4,697,134	9/29/87	Burkum et al.	320	48	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
CQ	EP 0 772 056 A1 ✓	5/7/97	EPO			X
CR	EP 0 637 754 A1 ✓	2/8/95	EPO			X
CS	2 088 159 A ✓	6/3/82	Great Britain			X

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

CT ✓	IEEE Recommended Practice For Maintenance, Testings, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations, The Institute of Electrical and Electronics Engineers, Inc., ANSI/IEEE Std. 450-1987, 3/9/1987, pp. 7-15.
CU ✓	"Field and Laboratory Studies to Assess the State of Health of Valve-Regulated Lead Acid Batteries: Part I Conductance/Capacity Correlation Studies", by D. Feder et al., IEEE, August 1992, pgs. 218-233.

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Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
CV	4,707,795	11/17/87	Alber et al.	364	550	
CW	4,709,202	11/24/87	Koenck et al.	320	43	
CX	4,710,861	12/1/87	Kanner	363	46	
CY	4,719,428	1/12/88	Liebermann	324	436	
CZ	4,743,855	5/10/88	Randin et al.	324	430	
DA	4,816,768	3/28/89	Champlin	324	428	
DB	4,820,966	4/11/89	Fridman	320	32	
DC	4,825,170	4/25/89	Champlin	324	436	
DD	4,849,700	7/18/89	Morioka et al.	324	427	
DE	4,881,038	11/14/89	Champlin	324	426	
DF	4,912,416	3/27/90	Champlin	324	430	
DG	4,929,931	5/29/90	McCuen	340	636	
DH	4,931,738	6/5/90	MacIntyre et al.	324	435	
DI	4,947,124	8/7/90	Hauser	324	430	
DJ	4,956,597	9/11/90	Heavey et al.	320	14	
DK	4,968,941	11/6/90	Rogers	324	428	

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	Document No.	Date	Country	Class	Sub Class	Translation Yes No
DL	WO 93/22666 ✓	11/11/93	WIPO			X
DM	WO 98/58270 ✓	12/23/98	WIPO			X

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

DN ✓	"Battery Impedance", by E. Willihnganz et al., <u>Electrical Engineering</u> , September 1959, pgs. 922-925.
DO ✓	"JIS Japanese Industrial Standard-Lead Acid Batteries for Automobiles", <u>Japanese Standards Association UDC</u> , 621.355.2:629.113.006, Nov. 1995.

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FORM PTO-1449 4-1-93	Atty. Docket No.: C382.12-0143	Serial No.: 10/748,792
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Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
DP	5,004,979	4/2/91	Marino et al.	324	160	
DQ	5,032,825	7/16/91	Xuznicki	340	636	
DR	5,047,722	9/10/91	Wurst et al.	324	430	
DS	5,087,881	2/11/92	Peacock	324	378	
DT	5,126,675	6/30/92	Yang	324	435	
DU	5,140,269	8/18/92	Champlin	324	433	
DV	5,144,248	9/1/92	Alexandres et al.	324	428	
DW	5,170,124	12/8/92	Blair et al.	324	434	
DX	5,204,611	4/20/93	Nor et al.	320	21	
DY	5,214,370	5/25/93	Harm et al.	320	35	
DZ	5,214,385	5/25/93	Gabriel et al.	324	434	
EA	5,241,275	8/31/93	Fang	324	430	
EB	5,254,952	10/19/93	Salley et al.	324	429	
EC	5,281,919	1/25/94	Palanisamy	324	427	
ED	5,281,920	1/25/94	Wurst	324	430	
EE	5,295,078	3/15/94	Stich et al.	364	483	
EF	5,298,797	3/29/94	Redl	307	246	
EG	5,300,874	4/5/94	Shimamoto et al.	320	15	
EH	5,302,902	4/12/94	Groehl	324	434	

FOREIGN PATENT DOCUMENTS

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EI						

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U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
EK	5,331,268	7/19/94	Patino et al.	320	20	
EL	5,336,993	8/9/94	Thomas et al.	324	158.1	
EM	5,352,968	10/4/94	Reni et al.	320	35	
EN	5,343,380	8/30/94	Champlin	363	46	
EO	5,365,160	11/15/94	Leppo et al.	320	22	
EP	5,365,453	11/15/94	Startup et al.	364	481	
EQ	5,381,096	1/10/95	Hirzel	324	427	
ER	5,426,371	6/20/95	Salley et al.	324	429	
ES	5,432,426	7/11/95	Yoshida	320	20	
ET	5,434,495	7/18/95	Toko	320	44	
EU	5,442,274	8/15/95	Tamai	320	23	
EV	5,457,377	10/10/95	Jonsson	320	5	
EW	5,449,996	9/12/95	Matsumoto et al.	320	20	
EX	5,449,997	9/12/95	Gilmore et al.	320	39	
EY	5,485,090	1/16/96	Stephens	324	433	
EZ	5,519,383	5/21/96	De La Rosa	340	636	
FA	5,528,148	6/18/96	Rogers	324	426	
FB	5,550,485	8/27/96	Falk	324	772	
FC	5,561,380	10/1/96	Sway-Tin et al.	324	509	

FOREIGN PATENT DOCUMENTS

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U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
FF	5,562,501	10/8/96	Kinoshita et al.	439	852	
FG	5,572,136	11/5/96	Champlin	324	426	
FH	5,574,355	11/12/96	McShane et al.	320	39	
FI	5,585,728	12/17/96	Champlin	324	427	
FJ	5,592,093	1/7/97	Klingbiel	324	426	
FK	5,596,260	1/21/97	Moravec et al.	320	30	
FL	5,598,098	1/28/97	Champlin	324	430	
FM	5,602,462	2/11/97	Stich et al.	323	258	
FN	5,606,242	2/25/97	Hull et al.	320	48	
FO	5,621,298	4/15/97	Harvey	320	5	
FP	5,642,031	6/24/97	Brotto	320	21	
FQ	5,650,937	7/22/97	Bounaga	364	483	
FR	5,652,501	7/29/97	McClure et al.	320	17	
FS	5,675,234	10/7/97	Greene	320	15	
FT	5,677,077	10/14/97	Faulk	429	90	
FU	5,699,050	12/16/97	Kanazawa	340	636	
FV	5,701,089	12/23/97	Perkins	327	772	
FW	5,717,336	2/10/98	Basell et al.	324	430	
FX	5,757,192	5/26/98	McShane et al.	324	427	

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GA	5,773,978	6/30/98	Becker	324	430	
GB	5,789,899	8/4/98	van Phuoc et al.	320	30	
GC	5,793,359	8/11/98	Ushikubo	345	169	
GD	5,821,756	10/13/98	McShane et al.	324	430	
GE	5,831,435	11/3/98	Troy	324	426	
GF	5,872,443	2/16/99	Williamson	320	21	
GG	5,914,605	6/22/99	Bertness	324	430	
GH	5,945,829	8/31/99	Bertness	324	430	
GI	3,356,936	12/5/67	Smith	324	29.5	
GJ	5,488,300	1/30/96	Jamieson	324	432	
GK	6,002,238	12/14/99	Champlin	320	134	
GL	6,037,777	3/14/00	Champlin	324	430	
GM	6,051,976	4/18/00	Bertness	324	426	
GN	6,081,098	6/27/00	Bertness et al.	320	134	
GO	6,091,245	7/18/00	Bertness	324	426	
GP	6,104,167	8/15/00	Bertness et al.	320	132	
GQ	6,137,269	10/24/00	Champlin	320	150	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
GR	DE 29 26 716 B1 ✓	1/15/81	Germany			X
GS	0 022 450 A1 ✓	1/21/81	EPO			X

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

GT ✓	"Performance of Dry Cells", by C. Hambuechen, Preprint of <u>Am. Electrochem. Soc.</u> , April 18-20, 1912, paper No. 19, pgs. 1-5.
GU ✓	"A Bridge for Measuring Storage Battery Resistance", by E. Willihncauz, <u>The Electrochemical Society</u> , preprint 79-20, April 1941, pgs. 253-258.

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GV	3,562,634	2/9/71	Latner	31	04	
GW	4,379,990	4/12/83	Sievers et al.	322	99	
GX	5,144,218	9/1/92	Bosscha	320	44	
GY	5,315,287	5/24/94	Sol	340	455	
GZ	5,469,043	11/21/95	Cherng et al.	320	31	
HA	5,546,317	8/13/96	Andrieu	364	481	
HB	5,583,416	12/10/96	Klang	320	22	
HC	5,589,757	12/31/96	Klang	320	22	
HD	5,656,920	8/12/97	Cherng et al.	320	31	
HE	5,710,503	1/20/98	Sideris et al.	320	6	
HF	5,760,587	6/2/98	Harvey	324	434	
HG	5,808,469	9/15/98	Kopera	324	43.4	
HH	6,008,652	12/28/99	Theofanopoulos et al.	324	434	
HI	6,009,369	12/28/99	Boisvert et al.	701	99	
HJ	6,031,354	2/29/00	Wiley et al.	320	116	
HK	6,037,751	3/14/00	Klang	320	160	
HL	6,072,299	6/6/00	Kurie et al.	320	112	
HM	6,094,033	7/25/00	Ding et al.	320	132	
HN	6,163,156	12/19/00	Bertness	324	426	
HO	6,172,483	1/9/01	Champlin	320	134	
HP	6,172,505	1/9/01	Bertness	324	430	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
HQ	2 749 397	12/5/97	France			X
HR	59215674	12/5/84	Japan			Abstract Only

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

HS	
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FORM PTO-1449

Atty. Docket No.:
C382.12-0143Serial No.:
10/748,792LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION
DISCLOSURE STATEMENT

Applicant:

Jim K. Klang

Filing Date

Group Art:

December 30, 2003

U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
HT	3,989,544	11/2/76	Santo	429	65	
HU	4,745,349	5/17/88	Palanisamy et al.	320	22	
HV	4,876,495	10/24/89	Palanisamy et al.	320	18	
HW	4,937,528	6/26/90	Palanisamy	324	430	
HX	4,968,942	11/6/90	Palanisamy	324	430	
HY	5,179,335	1/12/93	Nor	320	21	
HZ	5,266,880	11/30/93	Newland	320	14	
IA	5,451,881	9/19/95	Finger	324	433	
IB	5,705,929	1/6/98	Caravello et al.	324	430	
IC	5,717,937	2/10/98	Fritz	395	750.01	
ID	5,862,515	1/19/99	Kobayashi et al.	702	63	
IE	5,895,440	4/20/99	Proctor et al.	702	63	
IF	5,929,609	7/27/99	Joy et al.	322	25	
IG	6,072,300	6/6/00	Tsuji	320	116	
IH	4,659,977	4/21/87	Kissel et al.	320	64	
II	4,913,116	4/3/90	Katogi et al.	123	425	
IJ	5,160,881	11/3/92	Schramm et al.	322	7	
IK	5,338,515	8/16/94	Dalla Betta et al.	422	95	
IL	5,537,967	7/23/96	Tashiro et al.	123	792.1	
IM	5,548,273	8/20/96	Nicol et al.	340	439	
IN	5,747,909	5/5/98	Syverson et al.	310	156	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
IO	62-180284 ✓	8/7/87	Japan			Abstract
IP	7-128414 ✓	5/19/95	Japan			Abstract

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

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IR	6,114,834	9/5/00	Parise	320	109	
IS	6,150,793	11/21/00	Lesesky et al.	320	104	
IT	3,876,931	4/8/75	Godshalk	324	29.5	
IU	5,347,163	9/13/94	Yoshimura	307	66	
IV	5,939,861	8/17/99	Joko et al.			
IW	5,339,018	8/16/94	Brokaw	320	35	
IX	5,412,323	5/2/95	Kato et al.	324	429	
IY	5,426,416	6/20/95	Jefferies et al.	340	664	
IZ	5,825,174	10/20/98	Parker	324	106	
JA	5,939,855	8/17/99	Proctor et al.	320	104	
JB	5,254,952	10/19/93	Salley et al.	324	429	
JC	4,217,645	8/12/80	Barry et al.	364	483	
JD	4,633,418	12/30/86	Bishop	364	554	
JE	5,321,626	6/14/94	Palladino	364	483	
JF	5,969,625	10/19/99	Russo	340	636	
JG	6,222,369	4/24/01	Champlin	324	430	
JH	6,225,808	5/1/01	Varghese et al.	324	426	
JI	6,249,124	6/19/01	Bertness	324	426	
JJ	6,259,254	7/10/01	Klang	324	427	
JK	6,262,563	7/17/01	Champlin	320	134	
JL	6,294,896	9/25/01	Champlin	320	134	
JM	6,294,897	9/25/01	Champlin	320	153	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
JN	4-8636 ✓	1/13/92	Japan			X (Abstract)
JO	6302776 ✓	2/5/88	Japan			Abstract Only

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U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
JP	4,379,989	4/12/83	Kurz et al.	320	26	
JQ	4,680,528	7/14/87	Mikami et al.	320	32	
JR	5,633,985	5/27/97	Severson et al.	395	2.76	
JS	5,739,667	4/14/98	Matsuda et al.	320	5	
JT	4,024,953	5/1977	Nailor, III	206	344	
JU	6,250,973	6/2001	Lowery et al.	439	763	
JV	6,254,438	7/2001	Gaunt	439	755	
JW	6,304,087	10/16/01	Bertness	324	426	
JX	6,310,481	10/30/01	Bertess	324	430	
JY	6,313,607	11/6/01	Champlin	320	132	
JZ	6,313,608	11/6/01	Varghese et al.	32	132	
KA	6,316,914	11/13/01	Bertness	320	134	
KB	5,435,185	7/25/95	Eagan	73	587	
KC	5,445,026	8/29/95	Eagan	73	591	
KD	4,667,143	5/19/87	Cooper et al.	320	22	
KE	4,847,547	7/11/89	Eng, Jr. et al.	320	35	
KF	5,574,355	11/12/96	McShane et al.	320	39	
KG	4,663,580	5/5/87	Wortman	320	35	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
KH	WO 99/23738 ✓	5/14/99	WIPO			X
KI	WO 94/05069 ✓	3/3/94	PCT			X

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

KJ ✓	National Semiconductor Corporation, "High Q Notch Filter", 3/69, Linear Brief 5, March 1969.
KK ✓	Burr-Brown Corporation, "Design A 60 Hz Notch Filter with the UAF42", 1/94, AB-071, 1994.
KL ✓	National Semiconductor Corporation, "LMF90-4 th -Order Elliptic Notch Filter", 12/94, RRD-B30M115, December 1994.

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U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
KM	6,323,650	11/27/01	Bertness et al.	324	426	
KN	6,329,793	12/11/01	Bertness et al.	320	132	
KO	6,331,762	12/18/01	Bertness	320	134	
KP	6,332,113	12/18/01	Bertness	702	63	
KQ	4,297,639	10/27/81	Branham	324	429	
KR	5,653,659	8/5/97	Kunibe et al.	477	111	
KS	6,161,640	12/19/00	Yamaguchi	180	65.8	
KT	4,351,405	6/28/82	Fields et al.	180	65	
KU	6,359,441	3/16/02	Bertness	324	426	
KV	4,047,091	9/1997	Hutchines et al.	363	59	
KW	5,653,659	8/1997	Kunibe et al.	477	111	
KX	5,637,978	6/1997	Kellett et al.	320	2	
KY	5,095,223	3/1992	Thomas	307	110	
KZ	5,194,799	3/1993	Tomantschger	320	2	
LA	5,754,417	5/1998	Nicollini	363	60	
LB						

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
LC						
LD						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

LE	"Alligator Clips with Wire Penetrators" J.S. Popper, Inc. product information, downloaded from http://www.jspopper.com/ , undated
LF	"#12: LM78S40 Simple Switcher DC to DC Converter", ITM e-Catalog, downloaded from http://www.pcbcafe.com/ , undated
LG	"Simple DC-DC Converts Allows Use of Single Battery", Electronix Express, downloaded from http://www.elexp.com/t_dc-dc.htm , undated

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FORM PTO-1449		Atty. Docket No.: C382.12-0143	Serial No.: 10/748,792
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT		Applicant:	
		Jim K. Klang	
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U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
LH	5,818,234	10/1998	McKinnon	324	433	
LI	6,140,797	10/2000	Dunn	320	105	
LJ	6,181,545	1/2001	Amatucci et al.	361	502	
LK	6,346,795	2/2002	Haraguchi et al.	320	136	
LM	6,347,958	2/2002	Tsai	439	488	
LN	6,351,102	2/26/02	Troy	320	139	
LO	6,359,441	3/19/02	Bertness	324	426	
LP	6,363,303	3/26/02	Bertness	701	29	
LQ	5,037,778	8/6/91	Stark et al.	437	216	
LR	6,144,185	11/7/00	Dougherty et al.	320	132	
LS	5,711,648	1/27/98	Hammerslag	414	786	
LT	5,927,938	7/27/99	Hammerslag	414	809	
LU	5,951,229	9/14/99	Hammerslag	414	398	
LV	5,961,561	10/5/99	Wakefield, II	701	29	
LW	5,961,604	10/5/99	Anderson et al.	709	229	
LX	6,236,332	5/22/01	Conkright et al.	340	825.06	
LY	6,351,102	2/26/02	Troy	320	139	
LZ	5,821,757	10/13/98	Alvarez et al.	324	434	
MA	6,167,349	12/26/00	Alvarez	702	63	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
MB						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

MC	"DC-DC Converter Basics", Power Designers, downloaded from http://www.powederdesigners.com/InforWeb.design_center/articles/DC-DC/converter.shtml , undated
MD	

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U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
ME	4,665,370	5/1987	Holland	324	429	
MF	4,361,809	11/1982	Bil et al.	324	426	
MG	6,392,414	5/21/02	Bertness	324	429	
MH	6,417,669	7/9/02	Champlin	324	426	
MI	6,424,158	7/23/02	Klang	324	433	
MJ	6,441,585	8/17/02	Bertness	320	132	
MK	6,445,158	9/3/02	Bertness et al.	320	104	
ML	6,384,608	5/7/02	Namaky	324	425	
MM	6,388,448	5/14/02	Cervas	324	426	
MN	6,307,349	10/23/01	Koenck et al.	320	112	
MO	6,411,098	6/25/02	Laletin	324	436	
MP	6,456,045	9/24/02	Troy et al.	320	139	
MQ	6,466,025	10/15/02	Klang	324	429	
MR	6,466,026	10/15/02	Champlin	324	430	
MS	4,564,798	1/14/86	Young	320	6	
MT	5,563,496	10/8/96	McClure	320	48	
MU	5,796,239	8/18/98	van Phuoc et al.	320	107	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
MV	RU 2089015-C1	8/27/97	Russia			Abstract Only
MW	09061505	3/7/97	Japan			Abstract Only
MX	10056744	2/24/98	Japan			Abstract Only

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

MY	"Notification of Transmittal of The International Search Report or the Declaration", PCT/US02/29461.
MZ	"Notification of Transmittal of The International Search Report or the Declaration", PCT/US03/07546.

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U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
NA	4,888,716	12/19/89	Ueno	364	550	
NB	6,495,990 B2	12/17/02	Champlin	320	132	
NC	4,385,269	5/24/83	Aspinwall et al.	320	14	
ND	4,686,442	8/11/87	Radomski	320	17	
NE	6,061,638	5/9/00	Joyce	702	63	
NF	6,359,442	3/19/02	Henningson et al.	324	426	
NG	5,541,489	7/30/96	Dunstan	320	2	
NH	6,424,157	7/23/02	Gollomp et al.	324	430	
NI	6,534,993	3/18/03	Bertness	324	433	
NJ	6,544,078	4/8/03	Palmisano et al.	439	762	
NK	6,556,019	4/29/03	Bertness	324	426	
NL	6,566,883	5/20/03	Vonderhaar et al.	324	426	
NM	6,586,941	7/1/03	Bertness et al.	324	426	
NN	6,597,150	7/22/03	Bertness et al.	320	104	
NO	2002/0171428	11/21/02	Bertness	324	426	
NP	6,263,268	7/17/01	Nathanson	701	29	

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
NQ	WO 00/67359 ✓	11/9/00	WIPO			X
NR	WO 01/51947 ✓	7/19/01	WIPO			X
NS	WO 98/04910 ✓	2/5/98	WIPO			X
NT	WO 00/62049 ✓	10/19/00	WIPO			X
NU						
NV						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

NW ✓	"Notification of Transmittal of The International Search Report or the Declaration", PCT/US03/06577.
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U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
OA	5,410,754	4/1995	Klotzbach et al.	370	85.13	
OB	5,654,623	8/1997	Shiga et al.	320	48	
OC	6,055,468	4/2000	Kaman et al.	701	29	
OD	2003/0025481	2/2003	Bertness	320	155	
OE	5,313,152	5/1994	Wozniak et al.	320	118	
OF	2003/0184306	10/2003	Bertness et al.	324	426	
OG	2004/0000891	1/2004	Raichle et al.	320	107	
OH	3,750,011	7/1973	Kreps	324	29.5	
OI	5,159,272	10/1992	Rao et al.	324	429	
OJ	5,325,041	6/1994	Briggs	320	44	
OK	6,526,361	2/2003	Jones et al.	702	63	
OL	6,667,624	12/2003	Raichle et al.	324	522	
OM	2002/0010558	1/24/02	Bertness et al.	702	63	
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OP						

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub Class	Translation Yes No
OQ	JP 11103503 A	4/1999	Japan			X (Abstract)
OR	WO 01/59443	2/9/01	WIPO			X
OS						
OT						
OU						
OV						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

OW	"Notification of Transmittal of The International Search Report or the Declaration", PCT/US03/07837.
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